

# Impact of Coronavirus Imposed Lockdown on Indian Population and their Habits

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## ABSTRACT

**Background:** Lockdown as preventive strategies are aimed to reduce the community transmission as a best weapon to defeat the COVID-2019. The pandemic born lockdown is clearly having an impact on the living habits of people and their social behavior.

**Methods:** A cross-sectional, observational study with systematic probability sampling with sample size 749 was conducted through web based data collection across India.

**Results:** Data shows lockdown impacts on daily routines and habits of people. Sleep, eating habits and internet uses have found significant differences. Majority of participants accepted to get affected by lockdown in their routines and habits.

**Conclusion:** Present web-based survey study could be important to highlight some major trends in an adjustment of our daily routine due to lockdown conditions. Lockdown situation have changed habits and way of living of given population results of responses about work from home 55% participants are working from home since lockdown condition implementation. Since lockdown 40% of participants agreed to use more internet data on official work and 31% of participants use internet data more than usual to access social media since lockdown.

**Keywords:** Covid-19, lockdown, coronavirus, sleep, work from home, internet use

## INTRODUCTION

The worldwide spread of novel coronavirus disease is severely affecting life as per the recent updates, almost one-third to half of the global population is now under

some form of lockdown. <sup>(1, 2)</sup> In the month of December 2019, in Wuhan Hubei Province, China, number of people suffered from severe respiratory illness. On 31<sup>st</sup> December 2019, China informed the World Health Organization (WHO) about the number of patients with symptoms of respiratory illness of unknown cause. <sup>(3, 4)</sup>

Recent studies suggesting that COVID-19 infection could be transmitted from people before they present the symptoms. <sup>(5, 6)</sup> Taking an example from China's experience and their bid to prevent further spread of the disease many countries have implemented serious imposition of restriction to prevent the spread of the disease and encouraging their citizens to work from home to promote social isolation. <sup>(7)</sup>

On 25<sup>th</sup> March 2020 Prime Minister of India announced countrywide lockdown with social distancing restriction over the majority of commercial activities and mass gathering including educational and public institutions. In such an exceptional situation of the century, we are living in it is crucial to understand how people are adapting to the constraints imposed on by the government due to coronavirus lock-down and its impact on given population and their routines and habits.

It is pivotal to begin research studies to deal with the likelihood of impact of the coronavirus lockdown on human life. For instance, collecting data through web-based surveys is increasingly popular nowadays

due to various reasons. Measurement of Quality of Life has become increasingly important over the past many decades. A search in PubMed depicted that a mounting growth of published articles containing the term Quality of Life. (8,9)

The present study is going to find the impact of lockdown on individuals' daily habits, on social restrictions and changes in daily routines like sleep, food habits and more towards society. Routine is the most important factor in getting good sleep. (10)

As lockdown implemented people proceed to work from home this have an unexpected impact on family mealtime and eating habits. A recent study conducted by Bengaluru-based startup suggests that it has impacted on sleep patterns also. (11, 12)

#### **Why e-survey as a method of the study**

Surveys are powerful research tools that convey valuable information on disease trends, risk factors, treatment outcomes, quality of life, and cost-effectiveness of care. Moreover, from a research standpoint, surveys having a larger sample size and therefore a greater statistical power, less expensive, increase the possibilities of gathering large amounts of information and increase the approachability to the targeted population by using several online and offline modes of survey administrations. (13, 14)

#### **Need of the study**

The course of the pandemic in India is different in terms of mortality and spread of infection as compared to some other countries of the world at the present time. The social, economic and psychological impact of the pandemic is noticeable. We think it's important to explore the ways, how people have found to cope with the pandemic situation one side with social isolation on the other side that might have never-seen-before. It is an opportunity to find how people are adjusting their routine and habits while staying inside their homes. There are lacunae of good research in the

existing literature regarding the impact of coronavirus imposed lockdown on daily life, which may need to be filled in overtime through the latest research.

## **METHODOLOGY**

**Objective of the Survey:** This survey research study aimed to assess the impact of lockdown on individuals' daily habits such as sleep/got up, social media use, work from home and more selected variables. It was also intended to measure the adjustment made by people about the crisis and how they are maintaining their daily routine.

**Study Method:** Cross-sectional, observational study

**Sampling technique:** Probability systemic sampling technique

**Sample Size:** 749

**Study population:** People in the 18-40 years of the age group who live in their homes due to COVID-19 lockdown.

#### **Inclusion Criteria:**

- Being between the ages of 18-40 years.
- Having a smartphone and internet access

#### **Exclusion Criteria:**

- Not willing to participate in the study
- Below 18 years of age

**Ethical Permission:** Consent was taken from all participants by sending separate word file and to get response as agree or disagree to participate.

**Study tool:** A self-prepared semi-structured anonymous questionnaire was used to record the responses of participants. The questionnaire was prepared after the literature review, focus group discussion and current news information in consultation with experts from different fields to check relevance and make necessary changes according to our study requirements. The questions were modified according to the suggestions received from the expert panel and output from pilot study. Guidelines for layout, question design, formatting, and pilot testing were followed.

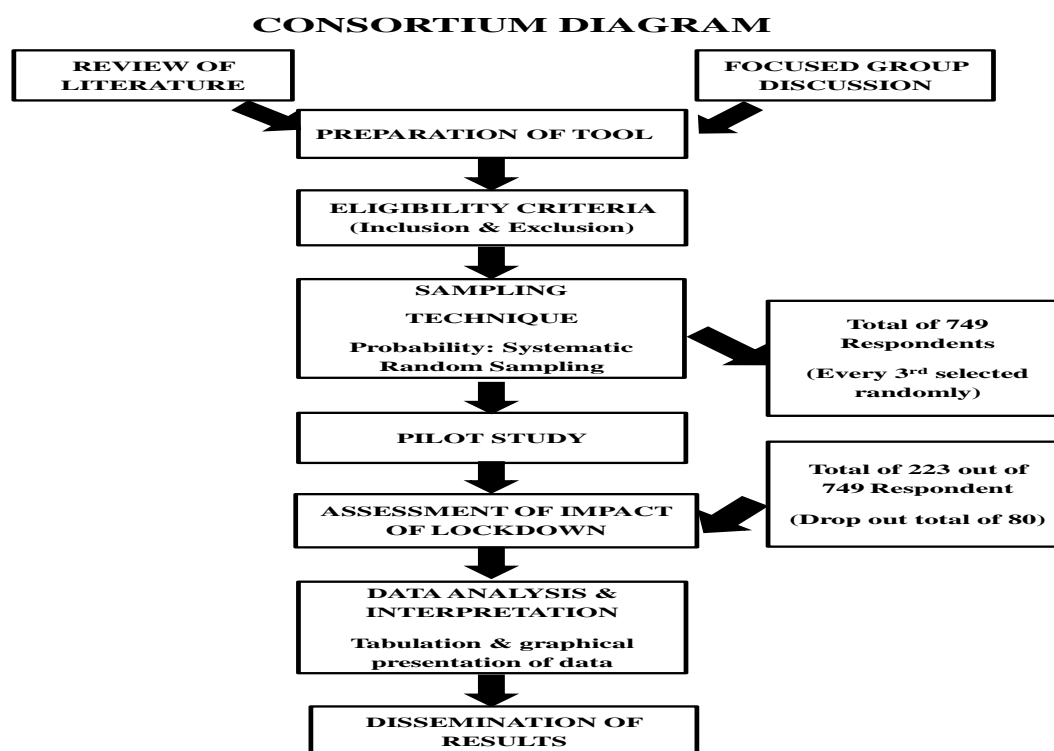


Figure 1: Consortium Diagram of Study

**Focus group discussion:** We prepared a WhatsApp group of 7 people to explore the various issues pertaining to lockdown provision related situation and its impact on everyone's life and to seek their suggestions towards preparing study questionnaire content. Principle of redundancy was followed.

**Pilot testing**

Pilot testing of a newly developed or adapted survey instrument is essential. Pilot testing helps to estimate comprehensibility, face validity, participant views including accuracy of skip patterns.

**Data Processing:** This was a cross-sectional, observational study carried out in India, and participants from across the country were invited to participate in the survey study to ensure maximum participation after taking their consent to voluntary enrolment in the study. An easy web-based link was created on Google survey to reply survey questionnaire and sent via WhatsApp application that is a popular platform to share and discuss individual information and life activities. Privacy was strictly protected during the

entire study procedure, referring to the ethical principles. People willing to participate were able to consult the researchers who remained available via message/phone calls to answer the queries related to the questionnaire. The survey data collection was initiated on 5<sup>th</sup> April 2020 and closed on 7<sup>th</sup> April 2020. The understandability was checked by administering pilot study to 15 people and necessary changes were made.

**RESULTS**

Table 1: Socio-demographic profile of Participants N=223

Socio-demographic variable	N (%)
Age(in years)	
18-25	111(50)
26-33	94 (42)
34-40	18 (8)
Gender	
Male	72 (32)
Female	151(68)
Marital Status	
Single	102(46)
Married	121(54)
Employment	
Govt. Employee	51(23)
Private Employee	99(44)
Owned Business	28(13)
Not employed (Including homemaker)	45(20)

Table-1 depicts the demographic details of the study participants. Study participants ranged between 18 to 40 years of age and the majority of participants (50%) belong to the age group of 18-25 where only 8% of participants were from age group 34-40 years. More than half (68%) of participant were female. About half of (54%) the participants were married and 44% participants were working as private employees, 23% were working in the government sector, 20 % were not employed and 13 % of participants were having their own business.

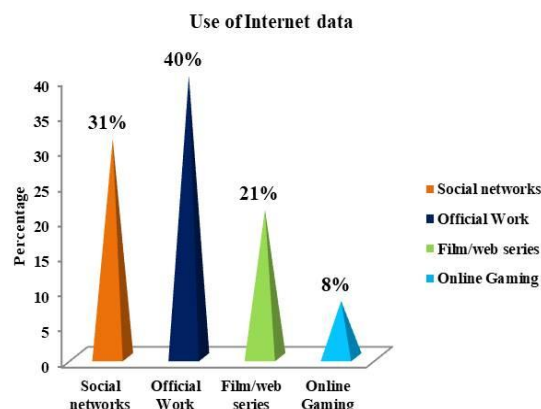


Figure 2: Use of Internet data

Figure 2 shows that since lockdown 40 % of participants agreed to use more internet data on official work and 31% of participants use internet data more than usual to access social media since lockdown

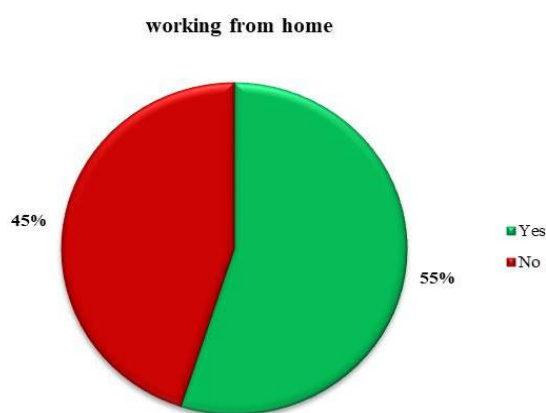


Figure 1: Work from Home

Figure 1: Since lockdown as the majority of institutions are shifting their work culture while allowing their employees to work from home. Figure-1 shows the results of responses about work from home 55% participants are working from home since lockdown condition implementation.

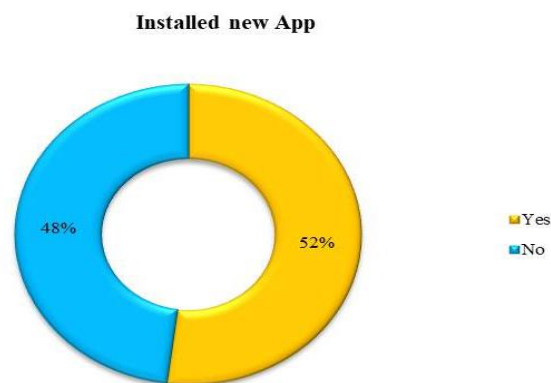


Figure 3: Installed new App

Figure 3 showing study data where 52% participants agreed to installed any of the new application on their phones, computer and, tablets to facilitate easy communication and facilitate online work after lockdown imposed.

Table 2: Routine habits N=223

Item	n (%)	
	Before Lockdown	Since lockdown
What time do you usually get up		
5:00 am	42(19)	12(6)
6:00 am	78 (35)	45(20)
7:00 am	77(34)	72(32)
8:00 am and after	26 (12)	94(42)
How often did you use a phone to talk with friends and family		
Several times a day	74(33)	94(42)
once a day	20(54)	53(24)
Once or twice a week	29(13)	76(34)
Which type of leisure activities you were/are doing in your home?		
Watching TV	48(21)	96(43)
Reading	33(15)	81(36)
Music	67(30)	35(16)
Painting/Crafting	75(34)	11(5)

The table-2 shows that frequency and percentage distribution of the routine habits of participants in lockdown. Lockdown affects the pattern of sleep as shown in data results where before lockdown only 12% of participants were used to get up after 8 am hence since lockdown the data reached 42% of total participants. On the other side only 6% of participants got up at 5 am since lockdown as compare to 19% of before lockdown routine. Only 33 % of participants using a mobile phone at several times a day before lockdown to talk to their friends or family but since lockdown, the percentage of participants increased up to reach to 42%. The study results show that since lockdown people are spending more time in activities like watching TV, music as the table shows 43% of participants agreed to spend more time on watching TV than before lockdown as 21%.

How many times did you go to exercise per week

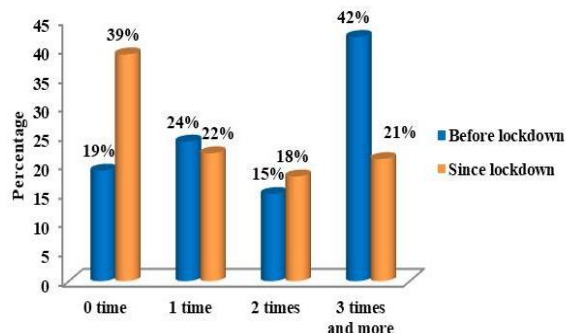


Figure 4: Exercise pattern N=223

Figure 4 shows another observation on exercise habit where data result shows that 42% of participants go to exercise at least more than 3 times in a week before lockdown that habit comes to down as 22% post lockdown restrictions implementation. Here data interpretation suggests that change in daily routine due to lockdown affects the physical exercise habit

Table 3: Impact of Lockdown

Item	n (%)
Lockdown have changed your eating habits than usual?	
Yes	168(75)
No	55(25)
During lockdown are you getting good access to basic necessities services (food, Healthcare)	
Yes	146(65)
No	77(35)
Are you worried about your family and friends due to COVID-19 disease?	
Yes more than usual	177(79)
Not at all	46(21)
Have you participated in any group actions to encourage people to follow lockdown and shared relevant information with them	
Yes	167(75)
No	56(25)
Since lockdown, have you participated in any group actions of mutual assistance or solidarity aimed to help your neighbors	
Yes	94(42)
No	129(58)

Table 3 depict that majority of people (75%) has changed their eating habits than usual hence due to change in the routine affected dietary pattern of people as they are preparing more food stuff since lockdown. 65% participants agreed that they are having good access to basic necessities (food and health) during lockdown as the government has been providing supplies of necessity things door to door and emergency services are running uninterrupted. Here more than two-third of participants (79%) were agreed that they were worried

about their family and friends due to the fear of covid-19 disease. Study data shows that 75% of participants took part in any group actions to encourage people to follow lockdown and shared relevant information with them and 42% participated in any type of group action to help their neighbors in any of possible ways.

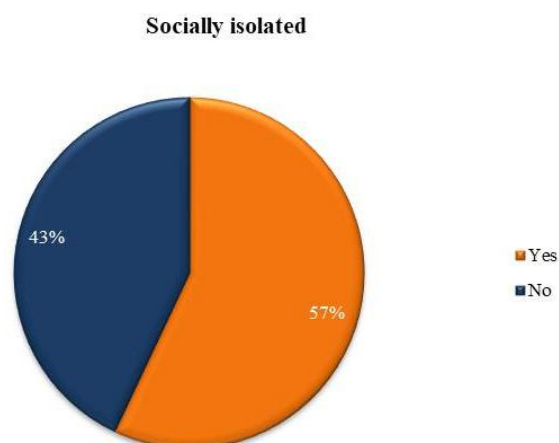


Figure 5: Socially isolated

Figure 5: shows that 47 % of participants agreed that they felt socially isolated due to lockdown as they are not able to move out and meet anyone.

## DISCUSSION

To address this critical situation and to reduce the spread of the infections in-country, Indian Prime Minister Narendra Modi announced a series of decree that imposed restrictions on the movement of individuals in the entire national territory of India from March 25<sup>th</sup> 2020.

As China launched a massive public health response in Wuhan “The National Health Commission” issued protocols for rapid prevention and control measures in order to effectively contain the spread of the epidemic by taking much decision. Hence Lockdown is among options suggested to reduce the spread of Covid-19 virus so far. (15-18)

Although these measures and efforts are necessary for curb the increasing number of new cases of COVID -19, there are reasons to be concerned because prolonged home confinement during a disease outbreak may affect people’s physical and mental health. (19)

In a country were more than 1.3 billion people are now inside their homes since 25th Mach 2020 a study to assess effect on lockdown on given population routine habits can give inside of how people are living under impact of lockdown and the

findings can reveals the impact of these never seen restriction on life of people.

With Probability Systemic random sampling technique we took every 3<sup>rd</sup> response from total received 747 samples. Total 243 sample response were selected randomly for data analysis and interpretation. Although there is no universally agreed-upon minimum response rate for online surveys capturing data to the extent possible on the characteristics of the respondents and the non-respondents may allow an assessment of the impact of response rates on the study results. (20)

Demographic details of study participants show that the 50% responders were young and professional between the age group of 18-25 years of age. We received only 8% of participants from age group 34-40 years. Female gender was dominating by more than half of total responders as 68% of participants were female and 54% participants were married. The study data found private sector employees up to 44% as leading employment was 13 % participants were either not working or homemaker.

Many organizations adopting a work-from-home policy to contain the spread of coronavirus pandemic.

In our study 55% participants were working from home since lockdown. Another study conducted in China revealed that 38 % peoples worked from home and 25% peoples work affected due to Covid-19 outbreak the study also depict that working from home could provide people with a sense of intent and routine, which is important during this situation. (21)

40 % participants agreed to use maximum use of internet data for official work since lockdown as people are working from home and 52% participants had installed any of new application on their phone, computer, Tablet to facilitate communication after lockdown imposed.

As expected to researchers, during the lockdown period people increase the usage of social media more than their usual duration before lockdown because it assume

that social media platforms offer an opportunity to ameliorate social isolation. The data results reveals that 31% of participants have used internet data more than usual uses to access social media.

We observed that the lack of social zeitgebers, such as regular work schedules and social activities, as well as changes in living conditions are strongly affecting sleep habits under restrictions. Our study results support that sleep habits were nevertheless, during lockdown got up timing markedly changed as people sleeping till late hours in morning. Our study data shows that only 6% participants got up at 5 am after lockdown as compare to 19% of before lockdown and 42% participants got up at or after 8 am post lockdown as compare to 12% of before lockdown as they spend more time on bed after lockdown. A Pan India survey was conducted with intends to assess impact of COVID -19 lockdown revealed that 67 % peoples working from home has altered their sleep routine. (22)

42% Study participants reported more frequent use of mobile phone since lockdown to talk to their family/ friends frequently as compare to 33 % of before lockdown. 43% Study participants agreed that they are spending more time in front of TV since lockdown as compare to 21% before lockdown. A recent research study conducted by AZ Research et al reveals in their finding that since lockdown time, television use with an average watching time 3.30 hours a day that was 2.48 hours pre-lockdown. (23)

As during lockdown people are spending all their time at home, 36 % of study participants preferred to spending time in reading books, newspaper or any other literature as compared to 21% before lockdown. Advance Field & Brand Solution conducted a survey to determine the effect of the lockdown on 'reading habits' and 'time duration' by people. Results shows that readers who spent more than half an hour in reading newspapers increased from 42% before lockdown to 72% and

consequently the average duration increased from 38 minutes to 1 hour. (24)

Lockdown is having a profound *impact* beyond the virus as significant change in exercise habits was found in study result as 42% of total participants go to exercise at least more than 3 times in a week before lockdown where now that drastically down as 22% since lockdown. A study conducted by Peijie Chen et.al suggested that prolonged home stays can change the behaviors that lead to inactivity. (25)

Eating habits changed during lockdown and we found 75% participants agreed that they are cooking more and spending more time in kitchen compare to pre lockdown. A recent study title as "COVID-19 virus outbreak lockdown: What impacts on household food wastage?" revealed that about 89% of respondents claimed to be aware of food waste and most of the respondents have set up a strategy of saving, storing and eating leftovers (26)

India is a huge population dens country and here providing basic necessity thing is continue to remain the biggest challenge for government still majority of the responder to survey (65%) agreed that they have had good access to basic necessities like food and health care during the lockdown as government has been providing supplies of necessity things door to door.

Our study data shows that half of the responders (52%) agreed to feel socially isolated due to lockdown as they are bounded to stay inside their home and not allowed to go outside or meet people. Recent studies support the impact of lockdown such condition on human behavior and suggest that people in lockdown are experiencing negative psychosocial changes which have an impact over thinking and anxiety. (27)

Here more than two- third participants (79%) were more worried about their family and friends than before lockdown due to the disease condition. Studies also show that isolation can

disproportionately affect elderly individuals whose only social contact is out of the home, such as at daycare venues, community centers, and places of worship. (28-30) To provide social support and a sense of belonging 75% of our study participants were involved in any kind of actions of mutual assistance towards their family and friends as motivating them to stay positive at this pandemic time and passing important information related to COVID-19.

In addition to importance of social distancing we cannot ignore social solidarity is an essential tool for combating such extraordinary situation of infectious diseases and other collective threats where 42% participants also agreed to help their neighbors in any of possible ways while following social distancing protocol.

## CONCLUSION

Considering that the lockdown is likely to continue for weeks, there is a pressing need to monitor the usual habits and well-being of the population and to gather research data to develop evidence-driven strategies to reduce adverse effect of lockdown implementation and impacts caused by these unprecedented changes in people's daily lives.

### Strength of study

Considering that the lockdown is likely to continue for weeks, there is a pressing need to monitor and gather research data to develop evidence-driven strategies to assess the impacts caused by these unprecedented changes in people's daily lives. This study includes a good response rate of 89.55%.

**Financial support and sponsorship:** No financial support was obtained from any firm, person.

**Analysis and Interpretation:** Collected data were analyzed by using descriptive statistics which is presented in the form of tables and figures.

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**Declaration of interest statement:** This is not an industry-supported study. None of the authors have potential conflicts of interest to be disclosed. All authors have seen and approved the manuscript.

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